DOCUMENT RESUME

ED 431 967 CE 078 999

TITLE	Workplace Learning Issues.
PUB DATE	1999-03-00
NOTE	33p.; In: Academy of Human Resource Development (AHRD) Conference Proceedings; see CE 078 963.
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Administrators; Adult Education; *Adult Learning; Consultants; *Education Work Relationship; Educational Trends; Emotional Adjustment; Foreign Countries; Independent Study; Integrated Curriculum; *Labor Force Development; Learning Activities; Teacher Attitudes; Trainers; Training Methods; Trend Analysis
IDENTIFIERS	Netherlands; *Study Circles; United States

ABSTRACT

This document contains four symposium papers on workplace learning issues. "The Changing Role of Training Consultants in Organizing Work-related Learning" (Rob F. Poell, Geoff E. Chivers) draws on interviews with training consultants in 19 different organizations to describe how their role is changing in response to the trend toward self-directed learning in the workplace. "Using Study Circles in the Workplace as an Educational Method of Facilitating Readjustment after a Traumatic Life Experience" (Barbara Barski-Carrow) explains how study circles can serve as a "democratic" interactive adult learning format that can compensate for the lack of training provided to managers and coworkers about the various stages of trauma recovery and ways of facilitating the workplace reentry of workers who have experienced a traumatic life event. "Learning-Activities of Junior Managers: Findings of a Quantitative Pilot-Study" (Eline S.K. Lankhuijzen) examines ways and the extent to which management tasks are learned. "Integrating Learning with Working--A Reconception of the Role of Workplace Learning" (Richard J. Torraco) uses in-depth accounts of actual work activity and the theories of situated learning and distributed cognition to develop a new conception of the role of learning interventions in the workplace. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 431 967

35 **Workplace Learning Issues**

Chair: Svjetlana Madzar, Gustavus Adolphus College

35 - 1 The Changing Role of Training Consultants in Organizing Work-related Learning

Rob F. Poell, University of Nijmegen, The Netherlands

Geoff E. Chivers, University of Sheffield, United Kingdom

35 - 2 Using Study Circles in the Workplace as an Educational Method of Facilitating Readjustment After a Traumatic Life Experience

Barbara Barski-Carrow, US Deparment of Health and Human Services

35 - 3 Learning Activities of Junior Managers: Findings of a Quantitative Pilot Study

Eline S. K. Lankhuijzen, UtrechtUniversity, The Netherlands

35 - 4 Integrating Learning with Working--A Reconception of the Role of Workplace Learning

Richard J. Torraco, University of Nebraska

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

R Poell B Barski-Carrow
L Lankhuijzen R Torraco

2A

BEST COPY AVAILABLE

CE 078 999

The Changing Role of Training Consultants in Organizing Work-related Learning

Rob F. Poell
University of Nijmegen, The Netherlands

Geoff E. Chivers
University of Sheffield, United Kingdom

This study draws on interviews with training consultants in 19 different organizations to describe how their role is changing under the influence of a supposed tendency towards self-directed employee learning at the workplace. From a learning-network perspective, this tendency can be regarded as a move towards liberalization. Qualitative data analysis shows that no general claims can be made as to this tendency or the role changes associated with it. If any, it would be an increased focus on HRD standardization, which runs contrary to more liberalized learning arrangements, for the prevalence of which only partial evidence was found.

Keywords: Work-Related Learning, HRD Consultants, Organizational Change

Employees and managers in work organizations are increasingly expected to take on responsibility for individual and team learning (Poell, 1998). What is the impact of this tendency on the role of the training consultant? A significant amount of research has been conducted into job profiles of HRD professionals (McLagan, 1989; Van Ginkel, Mulder & Nijhof, 1994), but not as yet from the perspective of a tendency towards self-directed employee learning. Generally speaking, it is assumed that the traditional emphasis in the role of training consultants on delivery of pre-designed courses is being replaced or supplemented by a stronger focus on the development of multiple learning arrangements. Is this actually happening, and if so, what does this new role of training consultants look like in practice?

Theoretical Framework

In this study training consultants are viewed as strategic actors in a learning network who interact with managers and employees to organize learning programs by negotiation, collaboration, and participation processes (Van der Krogt, 1998). From this perspective, a learning network can have structural arrangements associated with a liberal, vertical, horizontal, and external type. In a *liberal* learning network, individual employees create their own sets of learning activities. The profile of this learning network can be labeled as unstructured and individually oriented, since there is little structure above the individual level. A *vertical* learning network is characterized by linear planning of learning activities. The management develops learning policies, which are translated into pre-designed learning programs by training consultants and delivered to the employees. In a *horizontal* learning network, programs develop incrementally while they are being executed. There are no pre-designed learning policies. These develop by learning from experience as the programs progress. Training consultants are process counselors in this type of learning network. An *external* learning network is coordinated from outside the organization by the professional associations of the employees. Learning programs introduce work innovations to the learners, who adapt their work themselves accordingly.

The tendency towards self-directed learning of employees can now be understood as a move from a vertical to a liberal type of learning network. The role of a training consultant changes accordingly, from designing and delivering training programs to facilitating multiple learning arrangements for individual and team learners. If full emphasis is placed on facilitating team learning instead of individual learning, the consultant's role is congruent with a horizontal learning network. And if a training consultant helps individual professionals adapt their work to innovations introduced by their professional associations, they are operating within an external network. Other strategic actors (e.g., employees and managers) are expected to influence the way in which the learning network is organized as much as training consultants do. A learning network is viewed as an arena where constant processes of negotiation and collaboration among the participants shape and change the way actual learning arrangements are

Copyright © 1999 Rob F. Poell and Geoff E. Chivers

organized. This actor-strategic perspective and the four different learning-network types (Van der Krogt, 1998) will be used to interpret the changes occurring in the roles of trainingconsultants.

Research Questions

This exploratory study aims to describe what changes are actually taking place in the roles of training consultants in organizing work-related learning. The following research questions are investigated to shed light on this matter:

1. What changes are occurring in the way work-related learning is organized?
2. What roles do training consultants play in 'new' ways of organizing learning, in relationship to the roles of other strategic actors?
3. What problems and barriers do training consultants perceive in 'new' ways of organizing learning?

Methodology

Procedure

In May 1998, 293 questionnaires were sent out to all UK based alumni (from 1991 onwards) of the University of Sheffield Master's Degrees in Training and Development, Continuing Education, Information Technology Management, and Networked Collaborative Learning (all delivered by distance learning). After six weeks, 103 had been completed and returned (= 35 per cent). The questionnaire asked alumni for global information about their willingness to participate in the research project, about the job they held, about organizational characteristics, and about their involvement in technological innovations. Fourteen (= 14 per cent) of the respondents indicated they were not interested in participating in the research project, for various reasons, such as retirement, career change, unemployment, and so forth.

An effort was made to single out the alumni with a responsibility for organizing other people's learning within the organization, including trainers, consultants, educators, HRD managers, line managers, and mentors. There were found to be 74 alumni fitting this criterion. Twenty-two of them were approached at random across the United Kingdom, cutting across smaller and larger organizations and across internal and external training consultants. Alumni were included in the final sample if they were willing to engage in an interview and if they had been recently involved in innovation processes. Face-to-face interviews were held with the 19 participants who met both these criteria in June and July of 1998. Interviews lasted approximately ninety minutes each and focused on the participants' changing role in connection with the move toward self-directed employee learning. A topic list was used containing open questions about the following elements:

- Organizational mission, structure, culture, clients.
- Participant's job, typical work activities.
- Current role as a training consultant, tasks and responsibilities, strategies in organizing learning.
- Role changes in recent years, future role.
- Problems experienced in work, barriers to organizing learning, possible solutions.
- Relationship with management and employees, their role in organizing learning, attuning different strategies and values.
- Role in a recent, typical project that involved employee learning or development.
- Status of the training department in the organization, and status of the participant as a 'learning facilitator'.

Data Analysis

Two to three page interview summaries were made by the interviewer and offered to participants for correction and legitimization. Seventeen summaries (= 89 per cent) were returned to the interviewer containing additional information. Analysis was performed using seventeen corrected and two initial interview summaries. A computer program for qualitative data analysis, called Kwalitan (Peters & Wester, 1990), was used to score 144

interview scenes. Each interview scene was scored using an average of two to three labels, resulting in 345 labels all together. In this process, a total of 126 different labels were used, which were then brought under 28 label headings. Finally, three groups of two meta-label headings each were used to categorize the data in accordance with the three research questions: 'Organizational Changes' and 'Tendencies in HRD' referred to the first research question, 'Learning Activities' and 'HRD Roles' to the second research question, and 'Problems and Barriers' and 'HRD Strategies' to the third research question. Counts were made to list how many out of 19 interviews with participants featured scenes filed under the various label headings. These frequencies are reported in the next section.

Results

General Characteristics of the Sample

Four participants are women, fifteen are men. Participants' ages range from 30 to 65, most of them are in their forties or early fifties. Seven participants work self-employed, while twelve are employed in a company. Organizations involved are in electronics (#), a church diocese (#), a trade union (#), a private hospital (#), health care, aviation, mobile phones, insurance, atomic energy, a fire brigade, banking, and chemicals. The four out of twelve organizations marked # are small or medium-sized companies. Five out of seven self-employed consultants work mainly for small and medium-sized companies, including schools, colleges, health authorities, local government agencies, manufacturing firms, and professional organizations. All but two participants have obtained an MEd in Training and Development from the University of Sheffield between 1992 and 1997, most of them in 1995 or 1996. One participant holds an MEd in Continuing Education. One participant holds an MEd in Networked Collaborative Learning.

The companies involved are very different organizations, if only in size. In Mintzberg's (1979) terms, their structures range from machine bureaucracies (insurance, banking, atomic energy, fire brigade), to professional bureaucracies (private hospital, health care), to adhocracies (aviation, chemicals, electronics, mobile phones), to simple structures (church diocese, trade union). Most organizations are evidently in a process of organizational change, which may be as a result of growth (electronics, mobile phones), down-sizing (atomic energy, chemicals), new markets or products (aviation), new policies (church diocese), new laws (fire brigade, private hospital, health care), cost reduction (insurance, banking), changes in funding (trade union), and so forth.

Organizational Changes

Participants report changes in the training budget (n = 8) as a result of down-sizing or government cuts, which leads some organizations to question the added value of the training department. Some organizations are changing their work structures (n = 3) via experiments with self-managed work, lean manufacturing or business process re-engineering. Other companies are changing their organizational structures (n = 2) to a functional organization or a matrix organization. These results are summarized in Table 1.

Table 1
Organizational Changes

Changes	n
Budget changes	8
Changes in work structures	3
Changes in organizational structures	2

Tendencies in HRD

No less than 17 out of 19 participants perceive a tendency towards standardization within the HRD function of organizations. Their training programs are increasingly based on competence or performance standards, mirroring a stronger emphasis on accreditation. Within the UK context, the system of national vocational qualifications

(NVQs) and government programs such as Investors in People reflect this tendency towards standardized HRD programs.

Twelve participants report that the responsibility for training increasingly rests outside the training department. Indications for this tendency are the fact that managers are expected to act as a coach to their employees. The use of train-the-trainer and so-called cascading programs points in the same direction. The work of trainers has become organizing and co-ordinating rather than delivering training. Training delivery increasingly means hiring free-lance trainers. Interestingly, five participants report that their organization has witnessed a decentralization of the training department, while three suggest it is rather a process of centralization that is characteristic of HRD within their organization.

Twelve participants stress the view that training has becoming more strategically aligned to the organization's mission, which has made the training department more credible. Training should support the business, and there should be no more laissez-faire training as there was before.

Several developments point to a tendency towards liberalization within the HRD function (n = 10), meaning that individual employees are increasingly made responsible for organizing their own learning. Participants emphasize the importance of self-directed learning, the possibilities of distance learning and learning resources centers. Modularization of training is happening and employees are enabled to plan time for learning individually and to create their own learning route.

Learning and development are considered to be more important than training nowadays (n = 9). Buzzwords in this respect are learning on the job, integrating work and learning, continuing professional development, continuous employee development, informal learning, and reflective practice. The view that training courses are not the solution to every problem is widely held by these participants.

Five participants hold counteracting viewpoints. They either disapprove of government promoted 'Investors in People' or 'National Vocational Qualification (NVQ)' type programs, or they do not believe that the training department now has more credibility than before, or they do not see any tendency at all towards self-directed learning in the organizations they work with. These results appear in Table 2.

Table 2
Tendencies in HRD

Tendencies	n
Standardization	17
Training outside the training department	12
Strategic training	12
Liberalization	10
Learning and development rather than training	9
(De)centralization of training	8
Counteracting ideas	5

Learning Activities

Group learning is a powerful learning activity in 11 participants' organizations. This encompasses various group learning activities, group experiments, active development sessions, learning support groups, and case-based collaborative learning, amongst others.

Nine participants report the deliberate use of existing possibilities for work-focused learning activities. Recognizing and using available learning resources and opportunities are one side of the coin, while problem solving at work forms the other side. The use of new media in HRD programs is still on the rise (n=7). Intranet, computer-based training, multimedia, email, and the Internet are all used to support other learning activities.

Six participants focus attention on learning from others as an important learning activity, including the use of mentoring, systematic induction, and supervisory coaching. Only three participants point to the possibility of changing (e.g., diversifying) the work to fit with employee competencies rather than the other way around. These results are described in Table 3.

Table 3
Learning Activities

Learning activities	n
Group learning	11
Use existing work-focused learning possibilities	9
Use new media	7
Learning from others	6
Change work	3

HRD Roles

No less than 14 participants report that the promotion of individual development is at the core of their work as a training consultant. Personal development remains an important field of activity, just as individual counseling, development planning, individual learning facilitation, and individual guidance. A second core domain is organizational consultancy (n = 11), encompassing internal consultancy, organizational change, and process counseling. Third, training delivery is still highly characteristic in ten cases.

Organizational analysis is reported by seven participants as an important role. This consists of competency analysis, training needs analysis, job analysis, and monitoring progress during change processes. Six participants mention the recognition of learning by the workforce as part of their role, meaning they try to raise people's awareness of learning that is taking place informally and explicitly identify the new knowledge and skills gained. Six participants have also a responsibility for financial matters (e.g., training budget issues). These results are summarized in Table 4.

Table 4
HRD Roles

HRD roles	n
Individual development	14
Organizational consultancy	11
Training delivery	10
Organizational analysis	7
Recognition of learning	6
Financial matters	6

Problems and Barriers

Two main categories of problems and barriers experienced by the participants emerge from the interviews. First, 10 participants report resistance to change in trainers and, especially, in managers. Managers resent being made responsible for training issues that were formerly dealt with by trainers. Some trainers resist taking on a more facilitative consultant-like role. Second, eight participants experience a lack of recognition for training issues in organizations. They refer to the lack of a training culture and to the fact that despite a thriving training rhetoric not enough money is spent on good training. Sometimes managers are perceived as ignorant about training issues, resulting in a lack of training policy. Both training needs assessment and training evaluation are sometimes considered to be missing from standard operations. These results are described in Table 5.

Table 5
Problems and Barriers

Problems & barriers	n
Resistance	10
Lack of recognition for training issues	8

HRD Strategies

The strategies used by training consultants to deal with the problems and barriers they are facing can be summarized under three headings. First, 13 participants are actively trying to develop the learning climate of organizations. For instance, they attempt to create an empowering climate throughout the company, they encourage learning at all levels and in all places, they develop learning programs incrementally rather than by blueprint, or they try to get employees to recognize the learning opportunities that are available in everyday work situations. Second, 10 participants highlight the importance of negotiating with the various stakeholders involved in HRD processes, especially with managers. An important strategy in this connection is to influence the definition of an assignment or a forthcoming project at an early stage. Participants tend to stress the group's rather than simply their own responsibility for certain learning processes. Sometimes they take to educating the management rather than the operatives perceived to be 'the problem' initially. Third, participants undertake certain activities which will make them more professional consultants (n = 8). They work with associates, they are actively developing their consultancy skills, and they market both themselves as consultants and the products they have developed. These results appear in Table 6.

Table 6
HRD Strategies

HRD strategies	n
Develop learning climate	13
Negotiate with stakeholders	10
Be a professional consultant	8

Conclusions and Limitations

The first research question focused on the changes that are occurring in the way work-related learning is organized. In a context of decreasing budgets, training is found to be increasingly taking place outside a training department. The tendency towards liberalization reflects this observation, in that individual employees and their managers are increasingly held responsible for organizing individual development and team learning. On the other hand, training is also said to have become more strategic and, especially, more standardized. Viewed from the learning-network perspective, this is a counteracting tendency towards a vertical network. Apparently, some organizations are moving in the vertical direction, whereas others are heading for a more liberal learning network. Incidentally, this notion is mirrored in the finding that some organizations are centralizing their training efforts, while others are in a process of decentralization.

The second research question investigated the roles that training consultants play in 'new' ways of organizing learning. Again, the evidence is inconclusive. On the one hand, the prevalence of organizational consultancy and group learning activities points to a more horizontal learning network, whereas the emphasis placed on individual development and training delivery suggests a more liberal-vertical orientation. HRD roles in some organizations are clearly different from those in other organizations.

The third research question was about the problems and barriers that training consultants perceive in 'new' ways of organizing learning. Interestingly, although the strategic contribution of training was strongly emphasized before, the problems of resistance and lack of recognition tell a somewhat different story. Apparently, not all stakeholders have the same viewpoint about the preferred place and function of HRD efforts, which may account for

the fact that no general patterns were discerned in answering the first two research questions. This lack of agreement is probably why the current strategies of training consultants to deal with the problems and barriers they are facing include improvement of the learning climate and frequent negotiation with key stakeholders. These strategies seem well suited to involve stakeholders in HRD processes.

A first conclusion, then, is that few general tendencies across all types of organizations can be discerned from this sample. The strongest visible trend is the one towards standardization, which is pointing to verticalization rather than to more liberal learning arrangements.

A second conclusion is that organizational consultancy is as prevalent a role as training delivery, both of which are over-shadowed, however, by a focus on facilitating individual development. There is a strong awareness among training consultants of the importance of learning and development beyond formal training. In the actual programs that are run, however, informal learning and learning from daily work experiences are relatively under-addressed issues.

A third conclusion is the absolute invisibility of external learning networks, that is, the lack of recognition for employees learning within their professions. Training consultants do not pay enough attention to the fact that employees may wish to develop professional competencies that enable them to work in different organizations.

A fourth conclusion refers to the frequently made claim that training is now more closely linked to the business strategy and more highly regarded within the organization. At least three amendments should be made here:

- Most self-employed trainers and external consultants raise serious doubts about the ability and willingness of organizations to measure such impact at all.
- Internal consultants and HRD managers themselves report serious difficulties in getting line managers to take on responsibility for training issues, which should be part and parcel of a more strategic approach to training.
- Many internal consultants work mainly with senior and top managers. The fact that managers at that level are satisfied with the beneficial initiatives of internal consultants is no guarantee per se that changes are actually taking place at lower management levels or on the shop floor (especially if people are reluctant to take on responsibility for training issues).

So, although HRD is seen as becoming more strategic to the organization, several issues require this observation to be the object of further investigation. First, data were collected from training consultants only. Interviews with managers and employees should be held to check for different interpretations. Second, these conclusions are based on a small, select sample of practitioners with a specific background (having completed a University of Sheffield distance learning MEd) in one specific country (the UK). Interviews should be conducted with training consultants from other universities and in other countries to check for specificity. Third, the analysis so far has focused only on the general changes perceived to be taking place in organizations. Further analysis needs to be conducted to find out if specific changes apply to small and medium-sized enterprises as opposed to larger organizations, and to the role of internal as opposed to external consultants.

References

Ginkel, K. van, Mulder, M., & Nijhof, W. J. (1994). *HRD-profielen in Nederland.* Enschede, Twente University.

McLagan, P. A. (1989). *Models for HRD practice.* Alexandria, VA: American Society of Training and Development.

Mintzberg, H. (1979). *The structuring of organizations.* Englewood Cliffs, NJ: Prentice Hall.

Peters, V., & Wester, F. (1990). *Qualitative analysis in practice.* Nijmegen: University of Nijmegen.

Poell, R. F. (1998). *Organizing work-related learning projects: A network approach.* Nijmegen: University of Nijmegen.

Van der Krogt, F. J. (1998). Learning network theory: The tension between learning systems and work systems in organizations. *Human Resource Development Quarterly, 9*(2), 157-177.

Using Study Circles in the Workplace as an Educational Method of Facilitating Readjustment After a Traumatic Life Experience

Barbara Barski-Carrow,
U.S. Department of Health and Human Services

While employees who have undergone a traumatic life experience (TLE) are often referred for counseling and therapy, most organizations do not prepare managers and co-workers for the unique issues posed by TLE employees when they first return to the workplace. The Study Circle, a "democratic" interactive adult learning format, is introduced to make up for this lack by educating managers and co-workers about the various stages in the trauma recovery process and how to facilitate TLE employee's re-entry to the workplace.

Keywords: Workplace, Trauma, Study Circles

Employees who have had a traumatic life experience (TLE) and are returning to the workplace face a difficult road to recovery. The workplace environment as it exists today is not well equipped to handle such individuals. Managers and co-workers lack knowledge of a recovery framework to facilitate and support the survivor-employee's re-entry. The term TLE (traumatic life experience) was coined by the researcher/author after having witnessed and observed people trying to cope and deal with a traumatic event in their lives, especially those individuals returning to the workplace. Such TLE's include a rape, a hold-up, a heart attack, witnessing a murder, the suicide of a loved one, a divorce, and the loss of a career, etc.

Statement of the Problem

Today the workplace manager needs assistance and knowledge in recognizing and understanding the traumatic life experience (TLE) person. Many questions for managers arise such as: What do you do when a traumatized person returns to the workplace and does not want to do his/her work? What do you say to such a person to obtain the status on their work assignments? How do you allow the traumatized person to go through a process of grief and mourning following the trauma?

Three components in the workplace environment that affect individuals who are returning to work after experiencing a trauma are: (1) organizational dilemma, (2) the manager's resistance and (3) survivor's apprehension. In a pilot project related to this study (1993), the author uncovered a wide range of responses on these three components from interviews conducted with managers, survivors and therapists on the subject of employees who re-entered the workplace after having experienced a trauma.

Organizational Dilemma

With the rise in violent incidents in organizations, more knowledge is required in organizations about the recovery process of traumatized employees and how to educate supervisors and managers to work with them. Mantell (1994) has written about how to look for and report warning signs of potential outbursts of employees in the workplace; however, there is little guidance available on how managers should deal with such an employee in general.

Manager's Resistance

Today's managers are already overwhelmed with organizational setbacks dealing with the loss of resources, such as when budgets are slashed, divisions are deleted, responsibilities are added and productivity goals are doubled and tripled. These are the squeaky wheels which get the attention of managers, who must then prioritize their time and staff. In this highly stressful environment, a returning TLE may not get the attention that he/she should receive upon re-entry to the workplace.

Survivor's Apprehension

Copyright © 1999 Barbara Barski-Carrow

Survivors who return to the workplace after having experienced a trauma are not given the attention they require to readapt to their work environment. The author's study (1993) revealed that when survivors returned to the workplace, they received little or no support from the organization, and their managers did not know what to say to them. None were aware of the stages of recovery for a traumatized person to return to normal functioning. They felt they wanted to talk about their trauma, and had difficulty readjusting to the workplace environment.

Theoretical Framework

The research addressed the development of a cost-free short-term adult educational intervention called Study Circles to assist both managers and co-workers in understanding the dynamics of recovery for individuals after a traumatic life experience (TLE). Herman's (1992) three stages of recovery process is used as a model for the Study Circle intervention: (1) Establishing a safety net, (2) telling the trauma story, and (3) reconnecting the individual to the work community. As an educational intervention, the Study Circle is designed to complement any individual or group psychotherapeutic intervention for TLE survivors themselves. The researcher selected the Study Circle method of intervention because it is an adult learning technique that allows managers and employees to come together to share their views on a specific topic (Oliver, 1987). Study Circles promote both group interaction and collective sharing of ideas and information among participants. In a Study Circle, all individual views are considered, and participants have an opportunity to listen, dialogue and disagree (Stubblefield, 1994).

Pre-Study Circle interviews served as an overview of the scope and purpose of the research, and the introduction of themes provided background to better familiarize the potential participants with each theme and its significance in the recovery process. The interview themes, identified through Herman's (1992) three stages of recovery, were (1) establishing a safety net, (2) telling the trauma story and (3) reconnecting the individual back to the work community. These themes served as an introduction to the managers and employees who participated in the Study Circles.

Study Circle participants were selected from referrals. From among these, the researcher chose individuals based upon an employee's and the manager's interest and whether they were willing to "sign on" for the research by making a personal commitment of time and energy. The researcher was able to determine whether participants had a familiarity with this type of problem. Four Study Circle participant categories emerged: (1) senior level managers who did not have a traumatic life experience nor supervised a TLE employee; (2) senior level managers who had a traumatic life experience and had supervised a TLE employee; (3) senior level managers who did not have a traumatic life experience but had supervised a TLE employee; and (4) TLE employees who had made a successful re-entry to their workplace environment.

In the traditional workplace the three most common educational formats are the lecture, the seminar and the workshop. The lecture is best for communicating and clarifying information, procedures, policies, regulations and the like. It is also used by executives to stir and motivate employees. The seminar format is most often used by corporate leadership to explore and formulate new ideas, policies, procedures--to debate and discuss them before implementing them. The workshop used primarily for training people in various skills, is a very practical performance-based educational model.

What is missing in the workplace is an educational process for dealing with topics that need to be learned attitudinally, that is, topics that are aimed at transforming not only knowledge and behavior but also attitudes and emotions. In a topic such as dealing with the re-entry of a TLE employee, it is not enough to present the kinds of knowledge and information given in a lecture, nor is it enough to include a set of behavioral skills that one might learn in a workshop. The "missing" educational format needs also to provide ways to educate attitudes and emotions as well. By its educational design, the Study Circle provides this missing dimension of the traditional learning process in the workplace. The personal sharing in the Study Circle by participants who had experienced a traumatic life event or had managed a returning TLE employee provided the context for the needed attitudinal and emotional learning to take place.

The Study Circle is a distinct form of education which emerged in the United States in 1878 as one element of the Chautauqua Movement which included home-based Study Circles (Stubblefield, 1994). The idea of Study Circles transferred to Sweden during the 19th Century when that country was going through a very bleak period. Today Study Circles are a central part of Swedish life (Schurr, 1988). The Study Circle Resource Center (SCRC) in Pomfret, Connecticut is a clearinghouse of information of Study Circle activities all over the country. The SCRC is dedicated to the revitalization of the "democratic spirit."

Stubblefield (1994) believes, "Study Circles offer a new format for engaging learners in study and discussing public issues." Built on the experience and knowledge of the group members, it expands horizons by ensuring that everyone's views are considered during the discussion (Oliver, 1987). When properly conducted, a Study Circle makes all participants equal and values everyone's contribution. This democratic spirit in the TLE Study Circle reported herein allowed managers and employees to share their experiences and discuss the topic as equals. A rather revolutionary event in most organizations!

Research Questions

The research considered these questions:

1. Can Study Circles be designed and used to engage managers in a discussion of the problems of returning TLEs?
2. Can Study Circles be designed for and used by managers and co-workers to facilitate the TLE re-entry?
3. Does a manager having pervious experience with a TLE in the workplace engage more easily and intensively in a dialogue with a TLE than managers without such experience?
4. What examples of group-participation dynamics are likely to occur during such a Study Circle?
5. How open are managers after a Study Circle to dialogue with a TLE in the workplace?
6. Does the environment and setting of a government agency have relevance for Study Circles in assisting managers to help returning TLEs?

Methodology

The research was qualitative by design. The authenticity of data was verified by the multiple sources of information that were used. These sources included the long interview, case studies, researcher's observations, audiotaped interviews and videography.

The multiple sources of information were verfied by: (a) interviewing the participants prior to the Study Circles Sessions, (the interview information the researcher received and captured on audiotape provided a cross check with other people in the group). (b) The participants in the Study Circle had an opportunity to comment to each other, providing subject feedback verification, and (c) video taping was completed with all three Study Circles Sessions. Not only was the data verified, but the researcher's interpretations were verified by going through a debriefing with advisors which, through this debriefing, defended the data. Alternate interpretations were rejected in the review.

Leedy (1993) writes, "The qualitative research methodology approach is concerned with human beings: interpersonal relationships, personal values, meanings, beliefs, thoughts and feelings. The researcher attempts to attain rich, real and valid data and from a rational standpoint, the approach is inductive."

The long interview was used during the research study. McCracken (1988) writes, "The long interview gives us the opportunity to step into the mind of another person to see and experience the world as they do themselves."

The suggestions of Stake (1995) guided the researcher's audiotaping in the two case studies that were presented in the research: an employee who returned to the workplace after having experienced a trauma and a manager who had never supervised an individual with a trauma. The storytelling approach as described by Stake created both a chronological and biographical development of each case. Also, the findings of Robert K. Yin (1994) guided the researcher in the pilot case study.

The qualitative interviewing approach of Rubin and Rubin (1995) was used in data analysis and in viewing the videography. Analyzing participants words and nonverbal communication during a review of the video tapes assisted the researcher in discovering themes and clarifying perceptions of the participants.

The research clearly showed that Study Circles can and do work successfully as an educational format in a culturally diverse workplace especially a government agency. Two groups of Study Circles (Group A and Group B), with all sessions conducted during the lunch hour, attracted both managers and employees. The lunch hour served as an excellent time for meeting since it did not interrupt the work schedule of the participants.

Each Study Circle program consisted of three sessions where participants, managers and returning TLEs, engaged in open dialogue and discussed questions pertaining to that session's theme. The three themes were: (1)

creating a safety net, (2) *telling the trauma story*, and (3) *reconnecting the employee to the workplace*. Each session provided insights to the participants on the issues and concerns managers may have in welcoming a returning TLE to the workplace. For example, in the "safety net" session conflicting views were acknowledged by managers who wanted to emphasize the need for "productivity and compassion" when the TLE employee returns to the workplace. Managers, primarily responsible for the "bottom line" and getting the work done, felt conflicted if they had to spend a lot of time tending to a TLE--and at the same time not being sensitive to the needs of the returning TLE.

In the second session the discussion focused on how managers should interact with returning TLE's when they wanted to tell their trauma story. All managers agreed that good listening skills were required in order to determine whether or not the returning TLE wanted to talk about his trauma. All managers agreed to "acknowledge" the TLE employee and "treat the person as they wanted to be treated." In the third session, "reconnecting" managers focused on how to explain the recovery process to co-workers and what tone to set in the organization when the TLE returns to the workplace. One manager suggested that the returning TLE be invited to staff meetings and be reassured that his status had not changed because of the trauma.

During all of the Study Circles sessions TLE survivors provided feedback to managers and employees on the expectations they had of managers and the organization. These sessions provided an opportunity to explore uncharted territory in the organization, that of bringing a sensitive topic to the workplace and openly talking about its effect on management and its employees.

Each Study Circle group displayed a different spirit. Group A was homogeneous and shared more feelings and suggested that the organization needed "guidelines to assist managers" in their task. On the other hand, Group B managers remained more abstract and intellectual in their contributions to the group; they did not share their stories or experiences with the group, but more generally encouraged the organization to train its managers to "communicate" better and learn "active listening skills." Although Group B managers were not as open as Group A managers, the employees in both groups were equally open and eager to share their stories with other participants.

Both groups created their own group culture, engaging not only in the sessions's topic but other pertinent issues relative to manager/employee concerns such as acknowledging differences (each TLE will be different), communicating more openly, and recognizing performance issues when the TLE returns to the workplace.

It was concluded that to appropriately welcome a returning TLE employee, managers did not need to have previous experience in dealing with a returning TLE. Their success depended on their individual and career experience, how comfortable they felt in engaging the returning TLE, and their own personal experience with trauma.

The intervention techniques available in today's organizations to returning TLEs are many and varied and their relative applicability and effectiveness will depend on a number of factors,e.g., the traumatic event which was experienced, the level of medical and psychological therapy the TLE employee has had following the traumatic life event and before returning to work, and the help the TLE employee has sought and received outside the workplace from groups, family members, friends and associates.

In addition to psychological counseling and individual psychotherapy for the TLE employee, for example, Corey and Corey (1997) introduced the "Therapy Group." Here individuals meet on an ongoing basis with a counselor to discuss their grief. Yalom (1995) has observed in working with his clients that between the third and sixth month of group therapy individuals often undergo a shift, noting "Their initial goal, relief of suffering, is modified and eventually replaced by new goals, usually interpersonal in nature." Corey and Corey observe "Groups provide a natural laboratory that demonstrate to people that they are not alone and that there is hope for creating a different life. Grief intervention or grief counseling is another short term approach which can be used by a counselor or therapist to smooth a re-entry transition to traumatized employees returning to work. Ward (1995) concludes that "Grief needs time and space to express itself; one needs to give oneself the time, security and permission to grieve."

The educational intervention that the researcher introduced--Study Circles--does not replace importance of the TLE employee seeking one-on-one counseling or group therapy. The Study Circle intervention is designed for the managers and co-workers of the TLE employee. Its educational objective focuses on preparing the managers of an organization to deal effectively with individuals who are returning after a trauma. It does not exclude a manager in their organization from recommending to his/her employee to seek the services of the Employee Assistance Program (EAP) which may in turn recommend that the returning TLE seek personal counseling. In fact, after the Study Circle, a manager may be better prepared to make such a recommendation more selectively and compassionately. In this study the researcher is offering Study Circles as a forum which can assist managers in creating a safe bridge and a caring atmosphere where co-workers along with managers can listen to returning TLE employees and learn to be proactive instead of reactive.

Although in its long history the Study Circle format has been used extensively in community meetings, church groups and home study groups, it has only rarely been tried in workplace settings. These Study Circles

sessions proved that this adult educational process can be effectively applied in business and corporate settings (Osborne & Shevat, 1982).

Results, Conclusions and Limitations

The researcher conducted two groups of Study Circles, Group A and Group B. Both groups were a mix of managers and employees. Group A consisted of managers and employees with no specific professional or interpersonal skill base, they were selected only by availability and referral. Their "chemistry" was excellent; they were the ideal Study Circle. The group got along exceptionally well and freely shared their experiences with each other. Their sessions were filled with light humor, and no one seemed to up-stage another participant. On the other hand, certain Group B managerial participants were selected because of their professional expertise (alternative resolution dispute experts, lawyers, labor-relations, workshop leaders and a human resource manager). Group B as a whole did not generate great "chemistry" with each other. The managers, except for a few, did not share their trauma experiences with the group members. Instead they tended to make professional recommendations.

The researcher believes this occurred because Group A's orientation was toward finding a solution to a problem. Group A was more concerned with getting a result and giving guidance on how a job could be done better. On the other hand, Group B participants were swayed and perhaps awed by the experts in the session, who seemed most concerned about teaching communicating and listening skills, not with solutions. Over and over again, the professional communicators pointed out how the managers needed to be trained and skilled in good communication and active listening skills to support returning TLE employees, but as a representative of their work, they did not "walk their talk."

It would be important in future Study Circles groups for the facilitator to be aware that the types of individuals recruited for the sessions will make a difference in the quality and tone of the Study Circle sessions. For example, if all participants are engineers, because of their technical expertise their views on approaching a returning TLE are likely to be different from individuals who are counselors or group-process oriented.

However, every participant in both groups reported that the educational goals of the Study Circle were accomplished. Thus, despite the lack of group "chemistry," the Study Circle achieved its educational effect.

Administrative Observations

Distributing a list of discussion questions prior to each Study Circle sessions worked successfully. Participants said the handouts got them thinking about the content before the sessions, and gave them ideas, topics and verbiage to engage in a dialogue about a sensitive subject. Group A and B participants repeatedly made reference to the fact that they had reviewed the questions and noted in the sessions that some of the topics would be essential for mangers to focus on when greeting a returning TLE. For example, "good listening skills" was highlighted on one handout and managers and employees had extensive discussion on this topic.

The pre-Study Circle interviews were universally seen as helpful by participants. Numerous benefits about these interviews were mentioned by the participants both on the evaluations and in informal conversations. However, in Group B none of the employees were interviewed beforehand, yet all of them were very involved in the Study Circle, freely sharing their trauma stories, each reported having had a successful educational experience. Thus, it seems that pre-Study Circle interviews are not a critical factor in the learning process. Although the researcher concludes that pre-Study Circle interviews are not necessary to conduct a successful Study Circle, all those who were interviewed stated that the interviews assisted them in getting a broader framework for the topic.

How This Research Contributes to New Knowledge in HRD

This research project contributed significantly to a HRD program by illustrating how the Study Circle as an adult educational format can be transported into the workplace, in this case to assist managers and co-workers in dealing with a returning TLE employee. Through this Study Circle certain human resource problems can be minimized or prevented. Without this education, lack of communication can lead to performance problems on the job. For example, a supervisor who does not know how to approach a returning TLE may give the employee an adverse rating for not performing his functional duties. On the other hand, if the TLE employee is not treated with sensitivity or with compassion, he/she may file a grievance or a discrimination complaint against the manager.

Study Circles provide a model and a method to educate people about sensitive topics, which can be very easily adapted for any type of workplace setting. This "democratic" educational model brought together for the first time both managers and employees who were asked to teach and learn from each other through the Study Circle process about the very sensitive topic of traumatic life experiences.

During the Study Circle sessions participants listened to each person's contribution and offered their own stories and experiences. Some of the participants were willing to risk sharing their personal stories of trauma, which created a very positive learning environment. Because of the personal cohesion and trust that was built up among participants, they learned much, theoretically and practically. In their evaluatory reports, managers and employees said they better understood the process of recovery from trauma and were confidently able to implement some of the strategies and suggestions discussed in the Study Circle sessions. Although in the workplace, there is normally a sense of "difference" between employees and their managers, the interactive dynamics of the Study Circle process proved to be a gentle "equalizer, "enabling a free and respectful exchange among all participants.

Study Circle groups may have tremendous variation in their "group personality," but the Study Circle process, if handled properly, can work successfully within such variation. Even though the researcher was disappointed in the quality of Group B's trust and interaction, it was clear that for a Study Circle to be successful the facilitator does not have to be in control of the participants' relations and behavior. The evaluation forms completed by the participants assured the researcher that both groups had achieved their educational objectives quite successfully.

Whereas the task of helping the successful re-entry of a TLE employee would normally fall to a counselor or therapist, the Study Circle format allowed participants not to assume the work of the therapist, but to support and promote it in ways appropriate to managers and co-workers. This work of support and promotion could not have been produced in a traditional lecture or workshop, but only in a learning format where personal experience and empathy along with the expression of attitude, emotions and values are provided. The Study Circle format puts these experiential and emotional factors at the center of its learning process.

The Study Circle as an educational format can also prove useful with a topic around organizational policies and procedures that have not yet been formulated and institutionalized. Treatment of the returning TLE employee by managers and co-workers is one such focus. Because such treatment requires a major involvement with empathy, attitude and other emotional sensitivity, it is not an appropriate topic for legislation by executives in seminar, none of whom may have had direct experience of returning to the workplace after a traumatic life experience. The Study Circle format invites participants to share their personal views around such topics, and it views this personal experience as important data in helping shape procedures and policies.

In summary, the researcher sees the Study Circle process as an adult learning format that can fill a missing dimension among the educational tools currently used in the organizational workplace.

References

Aicher, P. J. (1990). The study circle experience in Sweden as compared with the United States. Journal of the Folk Education Association of America 15(2) (Fall 1991): 17-23.

Corey, M. S., & Corey, G. (1997). Groups: Process and practice. New York: Brook Cole.

Herman, J. L. (1992). Trauma and recovery. New York: Basic Books.

Leedy, P. D. (1993). Practical research: Planning and design. New York: Macmillan.

Mantell, M. (1994). Ticking bombs: Defusing violence in the workplace. New York: Irwin.

McCracken, G. (1988). The long interview. London: Sage.

Miles, M. G., & Huberman A. M. (1994). Qualitative data analysis. London: Sage.

Osborne, K., & Shevat, R. (1982, June) Study circles: Personal professional fulfillment for employees. Management Review, 37-42.

Rubin, H. J., & Rubin, I. S. (1995). Qualitative interviewing: The art of hearing data. London: Sage.

Schurr, C. (1988). Chautauqua: Yesterday and today. Chautauqua Collection. 40-45.

Stake, R. E. (1995). The art of case study research. Thousand Islands, CA: Sage.

Ward, E. (1995) Good grief: Exploring feelings of loss and death with under elevens. London and Bristol: Jessica Kingsley.

Yalom, I. D. (1995). The theory and practice of group psychotherapy. New York: Basic Books.

Yin, R. K. (1994). Case study research: Design and methods. London: Sage.

Learning-activities of Junior Managers: Findings of a Quantitative Pilot-study

Eline S.K. Lankhuijzen
Utrecht University, the Netherlands

In this pilot-study learning-activities of junior managers are addressed. The purpose of the study is to describe how management-tasks are learned and to what extent. Therefore, we developed a categorization of learning-activities. It is assumed that managers generally learn by doing. Additionally, we address the relation between extent of used learning-activities and age. The assumption is that regardless the age, informal learning-activities are used more than formal learning-activities and with the rising of age, less (formal) learning-activities are used.

Keywords: Management Development, Learning Activities

As a consequence of changes in the environment of organizations, functions and tasks of organization-members may change, for example as a consequence of getting a promotion into a management-position. Often it is not clear whether people are still able to function effectively under changed circumstances. Usually, one will try to bridge the gap between the desired competencies and the actual competencies by using learning-activities. Acquiring insight into types and extent of used learning-activities is one of the central assignments for researchers in the field of Human Resource Development (HRD).

In the last decade, the Human Resource Management approach emphasized the critical role of managers. Storey (1996) states that line managers need to be closely involved both as deliverers and drivers of the HR-policies. Furthermore, because of ongoing decentralisation- and flattening-processes, tasks and responsibilities are shifted towards lower levels of management. Earlier, those tasks were done by personnel specialists alone. This includes the responsibility for the development of employees as well as the manager's own development. Consequently, (first-line) managers are at the same time object and subject of Human Resource Development (Thijssen, 1998). Moreover, first-line managers lead independent business-units and are therefore held responsible for the results of their unit. Organizations, then, depend to a large extent on the competencies of their (first-line) managers. Consequently, it is an important issue to gain more insight into the learning of management-tasks. It is especially the group of junior managers that needs attention from the field, because they will normally use many learning-activities to prepare themselves for their new position.

A tendency in the field of HRD is the increasing focus on the workplace as an environment for learning and education. This can be seen as a result of the greater demands placed on productivity in which there is little time for training off-the-job. As a result, work and learning are becoming more and more interdependent. Furthermore, there are some advantages of learning on-the-job: the small transfer-problem, high motivation, early availability of new employees and low(er) costs (De Jong, 1996). In the same line of thought, fits the increasing attention for more informal ways of acquiring job-related competencies. However, the contribution of informal learning-activities of junior managers has not yet been extensively researched.

The objective of this pilot-study was to identify and to describe learning-activities of junior managers and the factors relating to the use of learning-activities. These factors can be individual or contextual; in this paper we describe the relation between age (individual factor) and use of learning-activities. The central research-question addressed here is: How can learning-activities used by junior managers, be characterized with regard to extent and type and how is the use of learning-activities related to age?

Theoretical Framework

Learning-Activities

Work-related learning-activities are various ways in which new qualifications are acquired or already existing knowledge and skills improved, both on-the-job and off-the-job.

Learning-activities vary in extent of formalization; they can be formal, non-formal or informal. Formal learning-activities are generally assumed to be goal-directed, organised and structured and to have educational intentions (Warmerdam, 1993, Marsick & Watkins, 1990). Marsick & Watkins (1990) add that formal learning is institutionally sponsored and classroom-based. Examples of formal learning-activities are courses and seminars.

Copyright © 1999 Eline F. Lankhuijzen

Informal learning is more difficult to define, but in general it is seen as acquiring and developing qualifications in and by executing normal work-tasks, within the normal work-situation. Informal learning usually happens unintended, unorganised and unstructured and is considered a side-effect of executing productive work-tasks (De Vries, 1988). Moreover, the control of informal learning-activities rests in the hands of the learner (Marsick & Watkins, 1990).

It is difficult to draw a precise line between formal and informal learning. Learning-activities that fulfil certain, but not all conditions are therefore called non-formal. Examples are activities like coaching or using job-aids, which are both partially structured.

Researchers in the field acknowledge that although the positive effects of formal training must not be forgotten, this is certainly not the only effective way for personnel development. Informal learning-activities seem to have possible effects on productivity, which are considered to be high, even in comparison with the value added due to formal learning (Van Onna, 1992). Additionally, researchers found that managers value formal training, but mainly learn by doing (Hill, 1992), or as McCall et al (1988) call it: learn from experience. Similarly, Noe & Wilk (1993) concluded that on-the-job experience may be more valuable for skill and competency development than formal courses or seminars. In addition, managers are generally viewed as being 'accommodators'; they prefer to learn from concrete experience and active experimentation (Kolb, 1984). From this point of view we formulated the hypothesis (A) that managers' learning-activities will mainly be informal (learning by doing). Taken together, it seems worth it to take a closer look at the informal learning-activities of junior managers, while at the same time not neglecting the value of formal training.

Warmerdam and Van de Berg (1993) identified 14 learning-activities. Kwakman (1992) carried out a factor-analysis on the same set of activities, which resulted in three factors: discovery learning, coached learning and external learning. On the basis of these findings, we developed our own categorisation of learning-activities in the following four categories:

1. learning by doing: on-the-job, informal;
2. learning with/by co-workers: on-the-job, non-formal;
3. Learning by seeking information: on-the-job, non-formal;
4. Training, workshops, courses, etc.: off-the-job, formal.

From results of reliability-analyses and factor-analyses, it was concluded that this categorisation is justified.

First-Supervisory Experiences

This research focuses on junior managers. Junior managers are managers working in (one of) their first supervisory position and having little experience. Mostly this concerns a first-line management-position in which a manager directly leads the workfloor. Important to note is that the term 'junior' refers to the extent to which a manager has experience in supervisory positions, it does not refer to age. Although age and experience will often be related.

The importance of the first-supervisory experience for further development as a leader, was supported by several studies. Davies & Easterby-Smith (1984), for example, found that confrontation with novelty in a job, e.g. when getting one's first supervisory position, is a common feature of developmental experiences mentioned by managers. In a study done by McCall et al (1988), it was concluded that topmanagers see their first supervisory position as a key-event in their career. Many executives maintained that, it was their first managerial job by which they were introduced to organizational realities. In this period managers are most likely to be open for new experiences and for learning fundamental aspects of the organization's methods. In support of this finding, Finch & Hopkins (1997) found that effective leaders considered new positions that offer new and/or increased responsibilities as most helpful to their development as leaders. Finally, Hill (1992) concluded that the first management position has a remaining influence on the further development in leading positions. Taken together, these investigations indicate that the first managerial position is a relevant starting point for researching managers' learning-behaviour.

The Management-job

A review of literature on management results in a long and varied list of definitions and descriptions of management and corresponding behaviors, activities, tasks, functions and responsibilities. The early descriptions refer to what managers should do (prescription), whereas more recent studies show what managers actually do (description) (Vinkenburg, 1997). For the pilot-study we chose for a description of the management function of the latter kind, developed by Luthans et al. (1984, 1985, 1988, 1995). They distinguish between twelve concrete

managerial activities with behavioral descriptors. These managerial activities, which we will indicate as management-tasks, were grouped into four clusters: (1) Communication (Exchanging routine information, Processing paperwork), (2) Traditional Management (Planning and co-ordinating, Decision making and problem solving, Monitoring and controlling performance), (3) Networking (Interacting with others/outsiders and Socializing, Politicking) and (4) Human Resource Management (Motivating and reinforcing, Disciplining and punishing, Managing conflict, Staffing, Training and developing).

Certain characteristics of management-tasks are likely to relate to the use of learning-activities. In this research we measured the importance and frequency of management-tasks. It is assumed that some tasks are more applicable and important for lower levels of management than others. Our hypothesis (B) is: the more important a management-task is and/or the more a management-task occurs, the more learning-activities will be used with regard to that management-task.

Learning-Activities and Age

One of the questions of the research-project as a whole, is which factors are related to the use of learning-activities in the current job. Since learning-activities are conceived of as depending on individual and contextual factors, we included from both factors some in our research. In this paper we address the relation between age as an aspect of personal characteristics and the use of learning activities.

Several authors stress that when age rises the total extent of use of learning-activities decreases. In other words: the older one gets, the less learning-activities (formal and informal) are used. An explanation that is often given, is that older people are not able and not willing to learn. Onstenk (1995) states that these kinds of explanations are mainly prejudices. The likelihood that learning processes will take place is not only a result of characteristics of the learner/employee, but also depends on the provision of learning opportunities in the workplace. Empirical research shows that often it is the lack of training-opportunities and the low accessibility of training for 'older' people that causes this negative correlation between age and participation in (formal) education. In addition, formal learning-activities are organized for people in the first half of their career. In later stages less attention is paid to formal training. Employees with more experience must find their own way in developing themselves. This mostly comes down to using informal learning-activities. In sum, age can be seen as a moderator-variable.

Although managers in this research cannot be called 'old', there is enough variance in age to study the relation between age and use of learning-activities. Finally, we expect that regardless the age, managers will use more informal than formal learning-activities, since managers are assumed to be pragmatic oriented learners and generally favour learning by doing.

With regard to the relation between age and use of learning-activities we formulated the following two hypotheses:

C. With the rising of age, the total extent of learning-activities used by junior managers decreases;
D. With the rising of age, junior managers participate less in formal learning-activities;

Research Questions and Hypotheses

Three research questions and four hypotheses are addressed:

1. How can learning-activities of junior managers be characterized? (by extent and type)
   Hypothesis A: The more informal a learning-activity is, the more junior managers use it.

2. How can management-tasks of junior managers be characterized by frequency, importance and use of learning-activities?
   Hypothesis B: The more important a management-task is and/or the more frequently a management-task occurs, the more learning-activities junior managers use for these management-tasks.

3. How does age relate to participation in learning-activities by junior managers?
   Hypothesis C: With the rising of age, the total extent of learning-activities used by junior managers decreases;
   Hypothesis D: With the rising of age, junior managers participate in fewer formal learning-activities;

Methodology

Participants

In this pilot-study 70 junior managers participated. Most of them were working in first-line management-jobs as leaders of teams or departments. They have a minimum of 6 months managerial experience, while the average managerial experience is 7 years and 2 months (SD = 5).

The pilot-study was conducted in two organizations: a large government institution and an international chain of fast-food restaurants.

Instruments

Questionnaire. A written questionnaire for the junior manager was developed. Topics were general background information, learning-activities in former job, learning-activities in first year current job (central part), management-tasks, competency and reflection. The respondents needed approximately one hour to fill out the questionnaire. The questionnaire was mainly conducted in groups, in presence of the researcher. Generally the answers were given on a five-points-scale (1 = low, 5 = high). An average score of lower than 2.5 is 'low', a score between 2.5 en 3.5 is 'moderate' and a score higher than 3.5 is 'high'.

Hand-out. In addition to the questionnaire a hand-out was developed with the four categories of learning-activities. The respondents needed this hand-out with examples to help them answering questions concerning their learning-behaviour during the first year in their current job.

Analysis

The main part of the questionnaire was analysed quantitatively, a small part qualitatively. For the quantitative data-analysis the computer program SPSS was used. This paper does not report on the qualitative results.

Results

Research Question 1. How can Learning-activities of Junior Managers be characterized (by extent and type)?

The extent of used learning-activities is given in Table 1. Junior managers score moderately on total extent of used learning-activities (3.02). Furthermore, we can see that the score on 'learning by doing' is high (3.77), while on all the other learning-activities junior managers have moderate scores.

Table 1
The Extent of Use of Different Types of Learning-Activities

Learning-activities	M	SD	F
1. Learning by doing	3.77	.84	27.35**
2. Learning with/by co-workers on-the-job	3.18	.77	
3. Learning by seeking information	2.64	.90	
4. Training, workshops, courses, etc.	2.57	.98	
Total	3.04	1.00	

** p< .01 (two-tailed)

Since we were interested in determining the ranking-order of types of learning-activities used by junior managers, we carried out an analysis of variance (Table 1). The results from this analysis show that the mean-scores of the first three types of learning-activities differ significantly (p<.01), whereas the third and the fourth learning-activity do not differ significantly. This leads us to the conclusion that junior managers learn more by doing than with/by co-workers, and more with/by co-workers than by seeking information and training, workshops, courses, etc. Table 2 shows the ranking-order of used types of learning-activities.

Table 2
Ranking-order of Extent of Types of Learning-activities Used by Junior Managers (1 = most used, 4 = least used)

Ranking	Type of learning-activity	
1	Learning by doing	(Informal)
2	Learning with/by co-workers	(Non-formal)
3	Learning by seeking information	(Non-formal)
3	Training, workshops, courses, etc.	(Formal)

From the data we conclude that informal learning-activities are most used by junior managers. This finding largely supports hypothesis A 'the more informal a learning-activity is, the more junior managers use it'. A slight restriction lies in the fact that there was no significant difference found between the extent of use of the third learning-activity (learning by seeking information) and the fourth learning-activity (training, workshops, courses, etc.). Obviously, the extent of used formal learning-activities does not differ from the extent of certain used non-formal learning-activities.

Research question 2. How can Management-tasks of Junior Managers be characterized by Frequency, Importance and Use of Learning-activities?

Table 3 shows the mean scores on use of type of learning-activity by clusters of management-tasks. The described general pattern of learning-activities (Table 2) is valid for Traditional Management-tasks and Networking-tasks. For tasks in the Communication- and HRM-cluster, the learning-activities 'learning by seeking information' and 'training, etc.' are turned round. Since we already concluded from Table 2 that the positions of these two types of learning-activities are interchangeable, this does not affect the initial conclusions. We conclude that for all clusters of management-tasks most informal learning-activities are used, followed by non-formal and formal learning-activities. Apparently, different management-tasks are learnt in similar ways.

The most right column with mean-scores in Table 3 provides information about the total average extent of used learning-activities for the different clusters of management-tasks. It seems that junior managers use most learning-activities for Traditional Management-tasks and least for Networking-tasks. The analysis of variance shows no significant differences between cluster 1, 2 en 4. Cluster 3 'Networking', however, differs significantly from the others with regard to the extent of used learning-activities. Whereas for the clusters 'Communication', 'Traditional Management' and 'Human Resource Management' is learnt moderately, for the cluster 'networking' junior managers use less learning-activities (the score is exactly at the point of being low: 2.51).

The frequency and importance of management-tasks are presented in Table 4. As can be seen, the total average frequency (3.58) and importance (4.02) is judged to be high. When we take a closer look at the four clusters of management-tasks, we see that tasks in the Communication and Traditional Management cluster have high scores on frequency. Tasks in the HRM- and the Networking-cluster occur moderately. The importance of all clusters is judged to be high, except Networking, which seems to be moderately important. Additionally, managers do not agree largely on the importance of the Networking-cluster (SD = 1.26). This finding may indicate that networking-activities are not especially meant for lower levels of management and are therefore found to be less important.

Table 3
Extent of Used Types of Learning-Activities by Different Clusters of Management-Tasks

	Types of learning-activities										
	Learning by doing		Learning with/by co-workers		Learning by seeking information		Training, workshops, courses, etc.		Total		
	M	SD	M	SD	M	SD	M	SD	M	SD	F
Clusters of management-tasks											
1. Communication	4.03	.98	3.31	.93	2.67	1.05	2.71	1.21	3.18	.64	15.83**
2. Traditional Management	3.87	.99	3.43	1.03	2.93	1.20	2.84	1.37	3.27	.74	
3. Networking	3.29	1.35	2.59	1.18	2.16	1.14	1.91	1.04	2.51	.84	
4. Human Resource Management	3.79	.90	3.30	.91	2.83	1.07	2.89	1.12	3.19	.71	

** p<.01 (two-tailed)

Table 4
Characterization of Clusters of Management-Tasks by Frequency and Importance

	Characterization of management-tasks			
	Frequency		Importance	
Clusters of management-tasks	M	SD	M	SD
1. Communication	3.89	.73	4.06	.73
2. Traditional management	4.07	.76	4.40	.58
3. Networking	3.01	.78	3.36	1.26
4. Human Resource Management	3.37	.61	4.29	.56
Total	3.58	.83	4.02	.92

Table 5 illustrates the ranking-order of management-tasks by frequency and importance. It seems that traditional management-tasks and communication-tasks occur more frequently than HRM- and Networking-tasks. With regard to importance it seems that tasks in the first three clusters are found to be more important than tasks in the networking-cluster. In the last column it is shown that junior managers direct less learning-activities to networking-activities than to the other clusters of management-tasks.

Table 5
Ranking-order of Clusters of Management-Tasks by Importance and Frequency and Extent of Used Learning-Activities (1 = most used, 4 = least used)

Ranking	*Frequency*	*Ranking*	*Importance*	*Ranking*	*Extent of used learning-activities*
1	Traditional Management	1	Traditional Management	1	Traditional Management
1	Communication	1	HRM	1	Communication
3	HRM	1	Communication	1	HRM
3	Networking	4	Networking	4	Networking

Now we know the frequency and importance of management-tasks and which learning-activities are used most, it is interesting to see whether a relation exists between frequency and importance of management-tasks on the one hand, and on the other hand the extent of used learning-activities. For the least occurring and least important cluster of management-tasks 'Networking', junior managers use least learning-activities. This finding seems to point at a relation between frequency and importance and extent of used learning-activities.

To further study the relation between frequency and importance of management-tasks and use of learning-activities, we calculated correlation-coefficients. From Table 6 it appears that frequency and importance of management-tasks are strongly correlated (.722). This can be explained by the high degree of freedom managers generally have. The autonomy in their jobs gives them a free choice to spend their time on tasks that they consider important.

A more interesting finding is that for both importance and frequency of management-tasks indeed a positive correlation exists with the extent of used learning-activities: the more important a management-task is and/or the more a management-task is encountered, the more learning-activities are used. Especially the frequency of management-tasks correlates strongly with extent of used learning-activities (.562). This can be explained by the fact that, in general, managers mention to learn by doing. Prerequisite for learning, then, is for management-tasks to occur. This conclusion is in support of hypothesis B ' the more important a management-task is and/or the more frequently a management-task occurs, the more learning-activities junior managers use with regard to these management-tasks'.

Table 6
Correlation Between Frequency and Importance of Clusters of Management-Tasks and Extent of Used Learning-Activities

Clusters of management-tasks	Importance by frequency	*Importance* by extent of used learning-activities	*Frequency* by extent of used learning-activities
1. Communication	.354**	.318**	.061
2. Traditional Management	.760**	.314**	.507**
3. Networking	.629**	.412**	.247*
4. HRM	.559**	.443**	.595**
Total	.722**	.458**	.562**

** p<.01 (one-tailed); *p<.05 (one-tailed)

Research question 3. How does Age relate to Participation in Learning-activities by Junior Managers?

In order to give an answer to the third research-question, we calculated a bivariate correlation (one-tailed) between age and total extent of used learning-activities. The correlation is -.254* (N = 64, p. 021). Although this score does not show a strong relation, still it is significant. It means that when the age rises, managers use less learning-activities. The third hypothesis 'with the rising of age, the total extent of used learning-activities decreases', hereby is confirmed.

The fourth hypothesis 'with the rising of age, managers use relatively less *formal* learning-activities will be used', was tested by calculating a bivariate correlation (one-tailed) between age and total extent of used *formal* learning-activities. The correlation is: -.059 (N = 67, p = .318). This correlation is not significant. Hypothesis four cannot be confirmed.

From Table 7 we see the results of an independent samples t-test, which we carried out as an extra indication of the difference in use of formal learning-activities for different ages. We divided the total group (20-43 years of age) in two age-groups. The 'younger' group was younger than 30 years (N = 31), the 'older' group was 30 years and older (N = 36). Although the mean-score of the younger group on formal learning-activities is higher than the score of the 'older' group , the result of the t-test shows that this difference is not significant. Again, hypothesis four is not confirmed.

Table 7
T-Test for Two Groups ('Younger' and 'Older') by Total Extent of Used Formal Learning-activities

	Age	N	M	SD	T	df	p
Total extent of used formal learning-activities	>=30 years	36	2.42	1.03	-1.21	65	.232
	< 30 years	31	2.70	.91			

Because we expect the extent of used informal learning-activities to be higher than the extent of used formal learning-activities, the quotient informal/formal has to be larger than 1.00 for both groups. However, the quotient for the older group has to be larger than the quotient of the younger group. To test if these quotients differ for the two groups, we did a t-test (see Table 8). We see that the mean-score on relation informal/formal learning-activities of the older group is higher than for the younger group. However, the difference is not significant. We conclude that the older group does not learn more informally than the younger group. In sum, based on correlation and t-test calculations, hypothesis (D) 'with the rising of age, managers participate less in formal learning-activities 'cannot be confirmed.

Table 8
T-Test for Two Groups ('Younger' and 'Older') by Relation Used Informal/Formal Learning-Activities

	Age	N	M	SD	T	df	p
Informal/formal	> = 30 years	36	1.91	1.04	1.369	65	.176
	< 30 years	31	1.59	.85			

Conclusions and Discussion

The first conclusion we can draw from this study is that junior managers are indeed pragmatic learners. Learning by doing, which is highly informal, is the learning-activity that junior managers use most. The extent of used informal learning-activities significantly exceeds the extent of used non-formal and formal learning-activities. Explanations for this learning-behaviour can be sought in the fact that managers usually have little time for other things than their primary tasks. Moreover, their pragmatic attitude makes that learning while executing their daily work is most efficient. Apparently, it is wise for organizations to create conditions for informal developmental opportunities in the workplace. For example by introducing coaching- and mentoring systems (Davies & Easterby-Smith, 1984).

A second important conclusion is that a correlation exists between importance and frequency of management-tasks on the one hand, and extent of used learning-activities on the other hand. An explanation for this strong relation is the fact that, in general, managers are to a large extent autonomous in their jobs. As a consequence, they have the freedom to direct learning-activities to the management-tasks they value most. For organizations it is important to show their managers the value of management-tasks, since it appears that this is a crucial factor in using learning-activities. Striking is that managers still seem to pay most value to Traditional Management-tasks. Apparently, Traditional Management-tasks are still the core of management, while also nowadays the importance of HRM-tasks is more and more recognized. Moreover, worth mentioning is that the pattern of learning-activities (most informal, least formal) is valid for all the clusters of management-tasks. Obviously, all management-tasks are learnt in similar ways.

Thirdly, we can conclude that the older a manager is, the less learning-activities he will use in total. This most probably relates to the fact that older junior managers have more job-related experience and therefore need to use less learning-activities than their younger colleagues. Furthermore, we expected to find that the older one gets, the less formal learning-activities a junior manager will use. However, this hypothesis was not supported. An explanation for this might be that, although there was enough variance in age, all junior managers were meeting new tasks and therefore all of them had to learn.

The results presented in this study are mainly descriptive. It was a necessary step, first to describe what types of learning-activities are used by junior managers and to what extent. The next step is to examine the effectiveness of (informal) learning-activities; this is the contribution of informal learning-activities to performance in the workplace. Further analyses will be done to uncover the pattern of effective learning-activities for different management-tasks.

References

Davies, J. & Easterby-Smith, M. (1984). Learning and developing from managerial experiences. *Journal of Management Studies, 21*(2), 169-183.

Jong, J.A. de (1996). Research into on-the-job training: a state of the art. *International Journal of Educational Research, 25*(5), 449-464.

Hill, L.A. (1992). *Becoming a manager: Mastery of a new identity.* Boston, MA: Harvard Business School Press.

Kolb, D.A. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.

Luthans, F. (1988). Successful vs. effective real managers. *The Academy of Management Executive, 2*(2), 127-132.

Luthans, F. (1995). *Organizational Behavior* (7th ed.). New York: McGraw-Hill.

Luthans, F. & Lockwood, D.L. (1984). Toward an observation system for measuring leader behavior in natural settings. In J.G. Hunt et al. (Eds.), *Leaders and managers: International perspectives on managerial behavior and leadership* (pp. 117-141). New York: Pergamon Press.

Luthans, F., Rosenkrantz, S.A. & Hennessey, H.W. (1985). What do successful managers really do? An observation study of managerial activities. *Journal of applied behavioral science, 21*(3), 255-270.

Marsick, V.J. & Watkins, K.E. (1990). *Informal and incidental learning in the workplace.* London: Routledge.

McCall, M.W., Lombardo, M.M. & Morrison, A.M. (1988). *The lessons of experience: how successful executives develop on the job.* New York: Lexington Books.

Onstenk, J.H.A.M. (1995). Linking work and learning during a career: opportunities and risks of learning in the workplace. In G.Kraayvanger, et al. (Eds.), *Work and learning: Opportunities and risks* (pp. 75-91). Nijmegen: ITS.

Storey, J. (1996). Human resource management: still marching on, or marching out? In J. Storey (Ed.), *Human resource management: A critical text* (pp. 3-32). London/New York: Routledge.

Thijssen, J.G.L. (1998). Markante beleidsthema's in Human Resource Development. *Opleiding & Ontwikkeling, 11*(1/2), 21-27.

Van Onna, B. (1992). Informal learning on the job. In A.C. Tuijnman & M. van der Kamp (Eds.), *Learning across the lifespan: Theories, research, policies* (pp. 125-135). Oxford: Pergamon.

Vinkenburg, C.J. (1997). *Managerial behavior and effectiveness: Determinants, measurement issues and gender differences.* Amsterdam: Thesis publishers. Dissertation.

Warmerdam, J. & Berg, J. van den (1992). *Scholing van werknemers in veranderende organisaties.* Den Haag: Vuga.

Watkins, K.E. & Marsick, V.J. (1992). Towards a theory of informal and incidental learning in organizations. *International Journal of Lifelong Education, 11*(4), 287-300.

Integrating Learning with Working--A Reconception of the Role of Workplace Learning

Richard J. Torraco
University of Nebraska

The nature of work continues to evolve from predictable, deterministic patterns to forms that are more contingent and idiosyncratic. The evolution of work, and of the expertise to perform it, have not been accompanied by innovations in the models used by workplace educators to develop this expertise. For some technical work roles, present models are inadequate for developing the skilled performance these roles require. Using in-depth accounts of actual work activity, this paper examines changes in how work is accomplished. Emergent themes from selected work settings are analyzed against present models of employee development. Using the theories of situated learning and distributed cognition, a reconception of the role of learning interventions is proposed that more fully integrates learning with working.

Keywords: Workplace Learning; Distributed Cognition; Situated Learning

Present models for developing work skills originated in the military and have evolved into the widely used instructional systems design (ISD) model (Gagne, 1962; Campbell, 1984). Efforts to develop and refine models that are responsive to the needs of the high performance workplace have expanded the scope of interventions beyond instruction alone. Present models are more comprehensive and systematic than in the past, yet they reflect a view of developing work expertise that is prescriptive and determinant. While present models are useful for many types of employee development, their potential for developing the type of skilled performance needed in a contingent and dynamic work environment is questionable.

This paper examines how well present models for developing skilled performance meet the challenges posed by certain types of technical work. The paper identifies a key deficiency in the models educators use to develop the skills needed for a particular class of work roles. This deficiency undermines our efforts to promote workplace learning and, if left unaddressed, our credibility as educators and agents of change. It is hoped that the identification of this deficiency will catalyze research to develop new models that are more responsive to the contingent task requirements so prevalent in today's workplace. A framework for integrating learning with working is proposed as a point of departure for this important, new research.

The following sections provide accounts of how work is accomplished in selected work settings. From these work descriptions themes are drawn that pose the greatest challenge to the viability of present models of instruction. Recent enhancements to the ISD model are critiqued against these themes. Finally, a framework for workplace learning is proposed based on this critique that more fully integrates learning with working.

Perspectives on Contemporary Work Practices

This section provides a series of work descriptions that summarize more in-depth studies by researchers who examined the work of six groups: photocopier repair technicians, dairy workers, software support technicians, aircraft carrier personnel, ad hoc work groups, and naval navigators. From these perspectives we gain insight into a particular class of work roles and the demands this work places on the capabilities of those who perform it. They highlight dimensions of skilled performance that warrant further attention from educators and others involved in developing these skills.

These six descriptions of work are not intended to be representative of the various types of work to be found in today's work environments. They are used because they illustrate certain characteristics of how work is accomplished. Thirteen descriptions of work were reviewed to identify features of task performance that challenge the viability of present models of instruction. These studies describe situations at the task level in which workers are confronted with novel or poorly defined problems that cannot be anticipated fully in advance. Thus, this work is difficult to analyze and translate into prescriptive behaviors for task performance. From this pool of studies, six accounts were chosen as the basis for this paper that met the following four criteria. Each account selected provided a description of work at the individual task level that is detailed enough to allow an accurate replication of the work

Copyright © Richard J. Torraco

behavior performed. Each account is an exposition of a single occupational or functional role. This is important to avoid contaminating the analysis with tasks and responsibilities from other occupational or functional roles that, while present in the same system, are not the work roles of interest in this analysis. In addition, the accounts focused on a particular class of work roles that is technical, rather than interpersonal or managerial, in nature. All of the accounts sought to enhance our understanding of how human expertise can be more effectively developed in natural settings where non-human factors also affect outcomes.

An examination of the characteristics of task performance within these six accounts of work lays the groundwork for a reconception of learning interventions for developing the expertise required by this work.

Photocopier repair technicians. Detailed accounts of how photocopier repair technicians resolve the problems encountered in restoring a malfunctioning photo-copier to working order emphasize the crucial contribution of contextual understanding to the development of their skills. Beyond basic technical expertise, technicians need a richer understanding of the social context of how photocopiers are designed and used. Orr (1990) makes the following observation about successful photocopier repair work:

> "[Photocopier repair] is not simply a matter of finding out what is wrong with the machine; there may be nothing wrong with the machine as a thing, in and of itself. The problem may rather lie in the interaction of the machine as it is, the uses its designers anticipated for it, and the uses, methods desired, understood and chosen by the customers. The designers' interpretation of how one would use the machine cannot preclude other interpretations, but the others, because unanticipated, may be unsuccessful. This may appear to be a problem to the customer whose interpretation of how to use the machine fails" (p. 171).

Diagnosis of the malfunction was complicated because the state of the machine was often unclear, a technical problem that is resolved through the social interaction of the technician, customer and machine. Technicians' skills must not only include techniques for machine diagnosis and repair, but a broader understanding of the social context of use in which customers make demands of the machine regardless of designers' intentions. Accurate reconstruction of the machine-user interaction is rarely possible for technicians, though such insight would greatly expedite the repair process. Instead technicians must construct their own representation of the problem as the basis of making repairs. Problems that could not be fully anticipated in advance demanded contingent responses; the use of scripted repair procedures by technicians was insufficient.

Dairy workers. Scribner (1984) studied the work of two groups of dairy plant workers, product assemblers and wholesale delivery drivers. Product assemblers prepared product orders, composed of milk and other dairy products, for shipment to customers based on computer-generated order forms. Wholesale delivery personnel were responsible for delivering orders to customers, including computing the dollar value of the dairy products on invoices. Scribner studied these tasks, assembling product orders and pricing delivery invoices, to compare the work strategies of experienced workers with those new to the tasks. Workers in this environment were presumed to rely on a combination of procedural knowledge from task-specific rules and pragmatic knowledge gleaned from experience. Greater understanding was sought about the different roles these types of knowledge played in the work strategies of experts and novices. Support was sought for the premise that cognitive skills take shape in the course of participation in socially organized practices. Thus, learning in the context of practice would be an essential determinant in the development of skilled performance.

Reflecting the wide range of institutional and retail customers served by the dairy, each dairy order was unique in size and composition, and consequently, order prices varied. Despite the availability of procedures and computer forms for assistance, wholesale delivery personnel adopted their own alternative methods for pricing delivery invoices (for example, effort-saving algorithms and personal crib sheets) that were not used by those new to the task. At the close of each delivery, experts made use of physical aspects of the environment, such as product containers and shipping cases, as cues for computing sub-totals for customer invoices. Their own pragmatic problem solving gave rise to these strategies for preserving mental effort on-the-job. A parallel demonstration of pragmatic thinking to save manual effort was apparent among product assemblers. Economy of effort functioned as a criterion distinguishing skilled from amateur performance. As opposed to relying primarily on procedural knowledge, successful work strategies were goal-directed and varied adaptively with the changing properties of the problems and resources encountered by workers in the task environment. These contextual factors influenced the development of skilled performance and illustrate how workers in a production environment learn and adapt their skills on-the-job.

Software support technicians. Pentland (1997) provided an insightful commentary on an increasingly ubiquitous role in today's computer-mediated work environment—the software support technicians who provide direct customer service through hot lines. A major challenge for these technicians is locating the sources of error underlying customer problems. Sifting through information from customers, technicians had to decide what was and was not relevant to problems. Compounding the challenge, computer problems frequently interrupted key business

operations of customers. Under the pressure of deadlines, customers were anxious to regain their lost computer capabilities. In addition, customers had diverse software and hardware configurations. Thus, both the urgency and complexity of customer problems confronted software support technicians.

Pentland's account reveals the challenge technicians faced in trying to reconcile the ambiguity of most customer problems with their own rational approach to computer work. The customer problems technicians encountered were poorly defined and often conflicted with the belief that software programs do exactly the same thing every time you run them. If a customer encountered a problem since the last time the program was successfully run, something had to have changed. Lacking a definitive diagnosis of the problem, the preferred solution was to tell customers to remove all unfamiliar system features until the software worked again. The overriding principle was that anything that resolved the problem was justified and acceptable, as long as it worked. The precision and logic suggested in theory were replaced by behaviors that were far more contingent and difficult to anticipate in practice.

From the work of photocopier service technicians, dairy workers, and software support technicians we gain insights into how they skillfully accomplish their tasks, aspects of which may have implications for how this expertise is developed. First, in each situation learning through workplace experience was crucial to the development of skilled performance. Without it technicians could not develop a balanced repertoire of solution strategies. Knowledge of diagnostic methods, common user mistakes, and other technical skills were insufficient if not considered within the broader user context. Learning from experience—one's own experience and the shared experiences of other—is a central part of developing skilled performance. Greater sensitivity to the value of contextual learning is indicated for learning interventions for this type of work. Second, successful work strategies in technical work environments are more contingent on environmental factors than the logic and coherence of technology suggests. The problem solving of software technician and dairy workers depended on conditions they encountered in the task environment, forcing them to rely on pragmatic rather than rational solutions.

The work perspectives in the next section focus on collective activity—that is, the work-related efforts of more than one person. Some tasks, such as those required to pilot large ships, develop fundamentally new products, and maintain the flight schedules of aircraft carriers, are necessarily collective efforts that cannot successfully be accomplished by an individual working alone, no matter how skilled the worker. In these instances, the coordinated efforts of several skilled workers are needed for safe, error-free performance.

Aircraft carrier personnel. Weick and Roberts (1993) used flight operations on aircraft carriers to illustrate the effects on performance of the presence or absence of *collective mind* in personnel responsible for launching and recovering naval aircraft. They defined *collective mind* as "a pattern of heedful interrelations of actions in a social system" (1993, p. 357). According to Weick and Roberts, as mindful comprehension among personnel increases, organizational errors decrease. Collective mind is shown to be integral to the successful execution of several key operational tasks requiring the skillful coordination of multiple onboard functions. For example, Weick and Roberts describe the process of taxiing a plane to a parking position on a carrier deck after a successful night landing. Without the benefit of daylight, the pilot relies on the guidance provided by hand signals from the taxi director who is out in front of the plane. Skillful coordination can mean the difference between successfully parking the plane on the cramped carrier deck or taxiing the plane over the side. Each actor, the pilot and taxi director, depends on each other's heedful interactions for the safe execution of the task. Other potentially dangerous tasks are described such as aircraft launch (takeoff), recovery (landing), on-deck refueling, live ordnance loading, and "spotting" (moving) aircraft on deck. Skilled, error-free performance on these tasks requires mindful interaction among personnel, a level of interaction that develops when learning and working are closely integrated.

Ad hoc work groups. Organizations seeking greater responsiveness to rapid changes in the marketplace have increasingly turned to using *ad hoc work groups* to accomplish specific projects. A group developing a fundamentally new product must undertake a complex task under time constraints in non-routine situations (Ancona & Caldwell, 1990). Ad hoc groups consist of members who otherwise would not work together and will likely disband after completing their work. New product development cannot be completed by a single person or work unit, and thus, require the interrelated contributions of group members which are, in turn, informed by needs and constraints external to the group. Ad hoc groups are further challenged by the need to establish norms and guidelines for reporting progress and dividing task responsibilities despite short-term goals. Short time deadlines emphasize efficient learning and task completion, rather than gradual socialization and group development. Yet, despite these constraints, group members must develop a shared sense of how to best distribute the responsibility for new product development. In short, the distributed nature of expertise in ad hoc work groups requires shared accountability for accomplishing a common goal in a short time.

Naval navigators. Hutchins (1990) provided an in-depth account of the expertise required for navigating large ships. Responsibilities are distributed among the members of a navigation team composed of three to six

members depending on the size of the ship. Members of the navigation team who are not located in the pilothouse interact continuously using radios, closed-circuit television, and visual contact. This is especially important for error-free navigation in confined or busy waterways. The career trajectories of naval navigators are such that most members of the team have previously held the positions of one of their junior colleagues. Advancing through progressively difficult navigation jobs allows for the overlapping distribution of expertise among members of the team. The expertise for navigation is not fully captured by any single member's conception of the navigation task. As Hutchins (1990) observes, "[the] sequence of actions to be taken need not be represented any where in the system. If participants know how to coordinate their activities with the technologies and people with which they interact, the global structure of the task performance will emerge from the local interactions of the members" (p. 209). The distributed nature of the expertise required for naval navigation and other group work has implications for workplace learning that are examined next.

Themes from the Workplace

This overview of work practices presents a picture of the sophisticated and demanding nature of this particular class of work roles. Three themes are drawn from these work descriptions about the nature of skilled performance required in these settings. These themes were explicitly identified in the six descriptions of work by the researchers as features of the work settings they examined. The first theme, the contingent versus deterministic nature of work strategies, was a feature of all six work descriptions. Each of these studies was consistent in its emphasis of the need for employees to go beyond scripted procedures to resolve novel and poorly defined work problems. The second theme, the distributed nature of expertise, was a prominent feature of the four accounts that examined the work of groups—photocopier repair technicians, aircraft carrier personnel, ad hoc work groups, and naval navigators.

The third theme, the integration of learning and working, was manifested in different ways in each of the work descriptions. Learning in the context of work for new product development teams was characterized as " 'playing in the sandbox'; members were occupied with exploring new product ideas and determining their feasibility" (Ancona & Caldwell, 1990, p. 179). For aircraft carrier personnel, Weick and Roberts (1993) describe this phenomenon as "teams of people thinking on their feet and doing the 'right thing' in novel situations" (p. 358). Learning could not be distinguished from the work activities of photocopier repair technicians, whose expertise depended on "the interactive construction of an understanding and a basis for action in the context of the problematic situation" (Orr, 1996, p. 12). Similarly, the successful performance of dairy workers relied on "cognitive skills [taking] shape in the course of individual participation in socially organized practices" (Scribner, 1984, p. 37). This theme was also evident in Hutchins' exhortation that any new naval navigation system "incorporates ways for operators to learn their jobs while working" (p. 219) and in Pentland's (1997) conclusion that "the most important insight is that local knowledge is crucial in software support" (p. 127). In each of these situations, skilled performance could not be developed without affording the opportunity for learning in the context of work.

More significantly, these themes were drawn from the work descriptions because they emphasize features of the task environment that are not adequately addressed by present instructional models. The evolution of this work has not been accompanied by innovations in the models educators use for developing this expertise. The following discussion of these themes provides the basis for the critique of present models of instruction.

Contingent versus deterministic work strategies. Rather than the rational and deterministic behaviors suggested by operating procedures and computer logic, successful work strategies are contingent upon multiple factors and expressed through pragmatic behavior. Software support technicians were challenged by problems from customers who were using multiple hardware configurations and software programs, and who each had their own idiosyncratic computer terms and techniques. The technicians' limited problem solving algorithms were inadequate for the variety and unpredictability of these problems. In the case of photocopier repair, the development of the now familiar control panel displays that aid copier users in freeing paper jams and other common problems was the best that engineers could do to reduce the need for service calls. With common, predictable copier problems made transparent enough that customers could resolve them, technicians were left with the breakdowns of ambiguous origins that could not be resolved with schematics and procedural knowledge alone. Scribner's study of dairy workers showed that the need for adaptation to unanticipated situations was not limited to technicians working with computers and electronics. To deal with the unique characteristics of each delivery situation, expert drivers bypassed invoicing procedures and relied instead on pragmatic rules of thumb, makeshift crib sheets, and other shorts cuts afforded by the task environment.

In each of these work settings, employees were confronted with novel or poorly-defined problems that could not be fully anticipated in advance. Successful performance required employees to go beyond scripted procedures to

resolve problems in innovative ways. To understand and respond to these ambiguous situations, they made resourceful use of materials, local conditions, and social circumstances, thus deploying contingent work strategies that reflected the changing properties of the task environment.

The distributed nature of expertise. Skilled performance in many work environments is a function of expertise that is distributed among group members. In the group context learning is a collective activity in which members construct their actions, understand that the system consists of themselves and others, and interrelate their actions within the system (Weick & Roberts, 1993). Rather than limited to a single agent, the *learner* is an aggregate concept representing a corps of individuals engaged in collaborative effort to achieve a common goal.

While present models of instruction feature a comprehensive assessment of the learning characteristics of the individual, they do not adequately address learner characteristics for situations in which the expertise to be learned is distributed. For example, readiness for learning and the need for structure are two learner characteristics not accounted when the skills to be developed are shared. Traditional models of instruction cannot accommodate variability in learner characteristics while, at the same time, developing the desired level of group performance.

The descriptions of group work presented also illustrate the need for greater clarity in the distinction between group dynamics and group performance. The development of group member interrelationships through identifiable stages of intimacy (Tuckman, 1965) is distinct from the development of the level of mindful interaction that yields synergistic performance. It is quite possible for an undeveloped group to become more developed without necessarily achieving the level of mindful interactions that yields high performance. This reflects Weick and Roberts' distinction between the development of group and the development of collective mind. Weick and Roberts (1993) observed that the combinations of "developed group—undeveloped mind" and "undeveloped group—developed mind" are not only possible, but quite prevalent. The dynamics of "developed group—undeveloped mind" are apparent in the experiences of cults (Galanter, 1989), the groupthink phenomenon (Janis, 1982), and the failures of team initiatives (Katzenbach & Smith, 1993). In these instances, comprehension and readiness for mindful interaction declines, regardless of how long the group has been together. Katzenbach and Smith describe the disappointing performance of teams in industrial settings established to accomplish key business goals that "turned from achieving performance gains to improving morale and openness" (1993, p.192). While acknowledging the importance of social and technical integration, the dynamics of mindful interaction that produce high performance are not dependent on formal socialization and group development. High performance is frequently achieved by undeveloped groups (that is, those not passing through stages of group development) (Ancona & Caldwell, 1987; Weick & Roberts, 1993).

The integration of learning and work. The work descriptions show that the distinction between learning and working has significantly eroded in today's workplace. Skilled performance in the work roles described would not have developed if workers did not have the benefit of learning in the context of their work. A more precise definition of *skill* clarifies the importance of integrating learning and work by revealing the contextual nature of skill.

The term *skill* is used to refer to different kinds and levels of human capability. We must first determine whether skill is an attribute of the person, of the task, or of both (Spenner, 1983). Darrah portrayed skills as an attribute of the person such that a skilled worker "can move freely between [workplaces], carrying his or her skills like so much luggage, and transferring those skills effortlessly into new contexts" (1994, p. 67). On the other hand, skill has been grounded in the contexts of its use to the degree that skill ceases to be an attribute of an individual worker, who could not take the skill away, but instead, resides in the interaction of co-workers as skill unfolds in a particular setting (Rogoff & Lave, 1984; Brown & Duguid, 1991).

To further specify the nature of skill, distinctions can be made among the concepts of *skill*, *aptitude*, and *task*. The notion of *task* is conceptually distinct from the performer of the task. A task, arising from particular environmental needs or wants, consists of activities to be performed to achieve desired outcomes. Human *aptitude* is a function of the person that represents individual capacity for a given performance. Individuals are said to possess innate aptitude for spatial reasoning, verbal fluency, and other capabilities. The concept of *skill* adopted here is consistent with the notion that skill is a phenomenon determined by both the performer and the task (Attewell, 1990; Spenner, 1983). Skill is a function of the individual and of the environmental context, that is, the task, within which the skill is demonstrated. *Skill* is not defined exclusively in terms of human capabilities; it retains features of both the performer and the environment in which it is expressed.

Thus, the environment presents constraints and affords opportunities for performance that shape the development of work skills. The influential role of the environment on the development of skilled performance emphasizes the importance of experience and learner control in the learning process. This view is consistent with the theory of situated cognition, in which learner activity and perception precede mental representation (Brown, Collins, & Duguid, 1989). The issue is not the centrality of experience to learning. Experience is crucial to learning (Kolb, 1984; Schon; 1983). Instead workplace educators must give more attention to how the learning intervention

changes when learner control and experience are more prominent. The point is that development to enhance the skilled performance of employees cannot be separated from the context in which the performance is expected to occur.

These three themes—contingent versus deterministic work strategies, the distributed nature of expertise, and the integration of learning and working—present a formidable challenge to the viability of present models for developing skilled performance. In present models, instruction is based on systematic analysis and program development, and then offered as a program that precedes work performance. Yet, the contingent nature of the task environment demands adaptive work strategies that cannot be fully anticipated in instruction based on predetermined analysis and objectives. Moreover, the notion of distributed expertise suggests that collective consciousness is an important element in the development of skilled performance. Yet, present models of instruction address either the job role or group development. Work in a variety of settings demands that workers continuously shift between individual and group expectations to exhibit seamless performance across job boundaries. For work that requires the coordinated efforts of individuals and the group as a whole, we cannot rely on instructional models that address one or the other. Recent enhancements to the ISD model have anticipated some of these concerns. The next section discusses how well these enhancements address the challenges to the ISD model presented by these themes.

Recent Enhancements to the ISD Model

Efforts to develop models that are responsive to the needs of the high performance workplace have expanded the scope of interventions beyond instruction alone (Deterline & Rosenberg, 1992; Rummler & Brache, 1995; Swanson, 1994). Nonetheless, instruction continues to have a powerful hold on the models and methods used by those concerned with improving human performance. The instructional systems design (ISD) model was designed for developing task-related skills and is still the most popular method for job skills and technical training. Since its introduction in the 1960's, revisions and extensions of the ISD model have come from many sources (Andrews & Goodson, 1980; Seels & Glasgow, 1990).

The ISD model recently has been criticized as too prescriptive, linear, time and resource dependent, and insensitive to the context of practice. This critique was catalyzed by Brown, Collins and Duguid's (1989) call for more meaningful "situated" learning experiences. Emphasizing the importance of learner participation in "communities of practice," Brown et al. proposed cognitive apprenticeships as a means for creating learning experiences within the realistic context of practice. Streibel (1991) challenged the field of instructional design to create instructional systems that are more sensitive to Brown's situated learning paradigm. Compared with traditional models Streibel characterized situated learning as more flexible, contextualized, emergent, learner-centered, and interactive. Gustafson (1993) suggested that we need new ISD models. The response to this criticism has weighed heavily toward proposed enhancements to the ISD model, rather than fundamental change in the model.

Richey (1995) discussed the changes anticipated in instructional design based on the influences of general systems theory, cognitive learning theory, constructivism, situated cognition, and chaos theory. Her analysis suggested that enhancements to the ISD model are most likely in the areas of the enhanced roles of analysis and evaluation, greater learner control of instruction, transfer of training, and the continued integration of instruction with technology. Dick (1993) suggested enhancements to the ISD model through clearer definition of the organizational problem(s) to be addressed, refining the use of electronic performance support systems—EPSS (an interactive database, learning tutorials, and expert diagnostic system—all integrated through a desktop user interface), and using the "layers of necessity" approach to instructional design, which advocates using only those design elements necessary for accomplishing a given project (Tessmer & Wedman, 1995). Tessmer and Wedman argued that instructional design models could become more context-sensitive with the use of three techniques—layered analysis, instructional scenarios, and prototyping. Winn (1993) suggested more flexibility in the choice of learning setting and proposed apprenticeships, cooperative programs between schools and employers, and more direct involvement of the community in education. Proposed enhancements to instructional models have been also cast in terms of their compatibility with the constructivist view of learning. Using arguments from constructivism, Lebow (1993) offered a set of principles that integrate the affective and cognitive domains of learning and proposed that critical enabling objectives in instruction.

Are enhancements to the ISD model enough? While these developments are encouraging, they do not address the demand for the skills needed in contingent work environments where expertise is often distributed among group members. Advancements such as EPSS, layered analysis, more effective learning transfer, and other improvements in instructional design foster more context-sensitive learning. However, if subsequent refinements

and computer technology cannot fully integrate learning with working, it may be time to consider fundamental changes to, or even replacement of, the ISD model.

A learning intervention model that is more context-based and amenable to the distributed nature of expertise is needed. At a minimum the development of work skills must arise more naturally out of the conditions and expectations of the performance itself. This requires a fundamental shift from viewing workplace learning as a phenomenon largely driven by educational offerings to a view of learning as a developmental philosophy that permeates organizational life in which learning is enriched through work, and working is enriched through learning. This type of learning does not rely exclusively on educational programs. Programs are episodic events that are time-specific and topic-specific by design. A key question is how much of an experience to develop skilled performance can be meaningfully described in advance? The lessons about how people actually accomplish the work described here suggest that far less can be prescribed in advance than suggested by present models. Comprehensive instruction cannot precede work performance for the development of skills needed in environments that place such a premium on contingent work strategies. The opportunities and constraints afforded in actual work contexts are indispensable for improving this type of skilled performance, for it is the learner who ultimately must translate these experiences into expertise.

Learning models must also be flexible enough to simultaneously accommodate individual and group development. This innovation will not be possible as long as models are based on pre-determined analysis and development and offered as instructional programs. The flexibility for simultaneously fostering individual and group learning can only arise from models in which learning occurs in the context of work. The dynamics of what is expected of the individual and of the group in the workplace cannot be anticipated fully by instructional designers in advance.

Present models are useful for many types of employee development such as new employee orientation, introducing employees to new skills, communication and interpersonal skills training, developing group dynamics, and in other areas. The framework proposed here addresses task-related performance improvement. It may not be appropriate for situations where the focus is on interpersonal relations, cultural change, or in stable work environments where performance expectations and resources change infrequently. The development of skilled performance requires that our best strategies for employee development be flexibly integrated with the dynamics of the workplace. In short, the framework proposed here more fully integrates learning with working.

References

Ancona, D. F., & Caldwell, D. G. (1987). Management issues in new product teams in high technology companies. In D. Lewin, D Lipsky, & D. Sackell, (Eds.). Advances in industrial and labor relations (vol. 4). Greenwich, CT: JAI Press.

Ancona, D. F., & Caldwell, D. G. (1990). Information technology and work groups: The case of new product teams. In J. Galegher, R. Kraut, & C Egido, (Eds.), Intellectual teamwork: Social and technological foundations of cooperative work. Hillsdale, N.J.: Lawrence Erlbaum.

Andrews, D. H. & Goodson, L. A. (1980). A comparative analysis of models of instructional design. Journal of Instructional Development, 3(4), 2-16.

Attewell, P. (1990). What is skill? Work and Occupation, 17(4), 422-448.

Barley, S. R. & Orr, J. E. (1997). Between craft and science: Technical work in U. S. settings. Ithaca: ILR Press.

Bereiter, C. & Scardarmalia, M. (1993). Surpassing ourselves: An inquiry in the nature of expertise. Toronto: Open Court.

Brown, J. S., Collins, A. & Duguid, P. (1989). Situated cognition and the culture of learning. Educational Researcher, 18(1), 32-42.

Brown, J. S. & Duguid, P. (1991). Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation. Organizational Science, 2(1), 40-57.

Campbell, C. P. (1984). Procedures for developing and evaluating vocational training programs. Journal of Industrial Teacher Education, 21(4), 31-42.

Darrah, C. (1994). Skill requirements at work. Work and Occupation, 21(1), 64-84.

Deterline, W. A. & Rosenberg, M. J. (Eds.). (1992). Performance technology success stories. Washington, D. C.: National Society for Performance and Instruction.

Dick, W. (1993). Enhanced ISD: A response to changing environments for learning and performance. Educational Technology, 33(2), 12-16.

Dunn, T. G. (1994). If we can't contextualize it, should we teach it? . Educational Technology Research and Development, 42(3), 83-92.

Gagne, R. M. (1962). Military training and principles of learning. American Psychologist, 17(2), 83-91.

Galanter, M. (1989). Cults. New York: Oxford University Press.

Gilbert, T. F. (1995). Competencies versus accomplishments. Training, 32(1), 44-50.

Giordano, L. (1992). Beyond Taylorism: Computerization and the new industrial relations. New York: St. Martin's Press.

Gustafson, K. L. (1993). Instructional design fundamentals: Clouds on the horizon. Educational Technology, 33(2), 27-32.

Harper, D. (1987). Working knowledge: Skills and community in a small shop. Chicago:University of ChicagoPress.

Hutchins, E. (1990). The technology of team navigation. In J. Galegher, R. E. Kraut, & C. Egido (Eds.). Intellectual teamwork: Social and technological foundations of cooperative work. Hillsdale, N.J.: Lawrence Erlbaum.

Janis, I. (1982). Groupthink, 2nd ed. Boston: Houghton-Mifflin.

Katzenbach, H. K. & Smith, P. (1993). The wisdom of teams. Boston: Harvard Business School Press.

Kolb, D. A. (1984). Experiential learning. Englewood Cliffs, N.J.: Prentice-Hall.

Kunda, G. (1992). Engineering culture: Control and commitment in a high-tech corporation. Philadelphia: Temple University Press.

Kusterer, K. (1978). Workplace know-how: The important working knowledge of "unskilled" workers. Boulder, CO: Westview.

Lave, J. & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge: Cambridge University Press.

Lebow, D. (1993). Constructivist values for instructional design: Five principles toward a new mindset. Educational Technology Research and Development, 41(3), 4-16.

Mager, R. F. (1997). Preparing instructional objectives: A critical tool in the development of effective instruction. 3rd ed. Atlanta, GA: Center for Effective Performance.

McLagan, P. A. (1990). Flexible job models: A productivity strategy for the information age. In J. P. Campbell & R. J. Campbell (Eds.). Productivity in organizations. San Francisco: Jossey-Bass.

Orr, J. E. (1990). Sharing knowledge, celebrating identity: Community memory in a service culture. In D. Middleton & D. Edwards (Eds.). Collaborative remembering. London: Sage Publications.

Orr, J. E. (1996). Talking about machines: An ethnography of a modern job. Ithaca, N.Y.: ILR Press.

Pentland, B. T. (1997). Bleeding edge epistemology: Practical problem solving in software support hot lines. In S.

R. Barley & J. E. Orr (Eds.). Between craft and science: Technical work in U. S. settings. Ithaca ILR Press.
Richey, R. (1995). Trends in instructional design: Emerging theory-based models. Performance Improvement Quarterly, 8(3), 96-110.
Rogoff, B. & Lave, J. (1984). Everyday cognition: Its development in social context. Cambridge, MA: Harvard University Press.
Rummler, G. A. & Brache, A. P. (1995). Improving performance: How to manage the white space on the organization chart. San Francisco: Jossey-Bass.
Schon, D. A. (1983). The reflective practitioner: How professional think in action. New York: Basic Books.
Scribner, S. (1984). Studying working intelligence. In B. Rogoff & J. Lave (Eds.). Everyday cognition: Its development in social context. Cambridge, MA: Harvard University Press.
Seels, B. & Glasgow, Z. (1990). Exercises in instructional design. Columbus, OH: Merrill Publishers.
Spenner, K. (1983). Deciphering Prometheus: Temporal change in the skill level of work. American Sociological Review, 48, 824-837.
Streibel, M. J. (1991). Instructional plans and situated learning: The challenge of Suchman's theory of situated action for instructional designers and instructional systems. Journal of Visual Literacy, 9(2), 117-132.
Suchman, L (1987). Plans and situated actions: The problem of human-machine communication. Cambridge: Cambridge University Press.
Szafran, R. F. (1996). The effects of occupational growth on labor force task characteristics. Work and Occupations, 23(1), 54-86.
Tessmer, M. & Wedman, J. (1995). Context-sensitive instructional design models: A response to design research, studies, and criticism. Performance Improvement Quarterly, 8(3), 38-54.
Tuckman, B. W. (1965). Developmental sequence in small groups. Psychological Bulletin, 63, 384-399.
Weick, K. E. & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. Administrative Science Quarterly, 38, 357-381.
Winn, W. (1993). Instructional design and situated learning: Paradox or partnership. Educational Technology, 33(3), 16-21.
Zuboff, S. (1988). In the age of the smart machine: The future of work and power. New York: Basic Books.

BEST COPY AVAILABLE